

July 5, 2016

File Number: 25RB-241818

VIA ECFS

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street S.W.
Washington, DC 20554

Re: Notice of Ex Parte Presentation in IB Docket Nos. 11-109 and 12-340; IBFS File Nos. SES-MOD-20151231-00981, SAT-MOD-20151231-00090, and SAT-MOD-20151231-00091

Dear Ms. Dortch:

This correspondence is to notify you that on June 30, 2016, representatives of Iridium Communications Inc. ("Iridium") met with staff from the Wireless Telecommunications Bureau, International Bureau, Office of Engineering and Technology, and Office of General Counsel. A list of the meeting participants is included as Attachment A.

The purpose of the meeting was to discuss the Comments and Reply Comments of Iridium filed in response to the Commission's April 22, 2016 Public Notice seeking comment on the applications filed by Ligado Networks LLC to modify the ancillary terrestrial component of its L-band mobile satellite service (the "Modification Applications").¹ The discussions during the meeting focused on Iridium's positions of record regarding the Modification Applications, as well as the presentation included as Attachment B.

Pursuant to Section 1.1206(b) of the Commission's Rules, 47 C.F.R. § 1.1206(b), this letter and the attached presentation are being filed in ECFS and e-mailed to the meeting participants. Please do not hesitate to contact the undersigned with any questions.

¹ See *Comment Sought on Ligado's Modification Applications*, Public Notice, IB Docket No. 11-109, IB Docket No. 12-340, DA 16-442 (rel. Apr. 22, 2016). See also *Comments of Iridium Communications Inc.*, IB Docket No. 11-109 *et al.* (filed May 23, 2016); *Reply Comments of Iridium Communications Inc.*, IB Docket No. 11-109 *et al.* (filed June 21, 2016).

Marlene H. Dortch
July 5, 2016
Page 2

Very truly yours,

A handwritten signature in black ink, appearing to read 'D. Svor', with a stylized flourish extending to the right.

Douglas A. Svor
for SHEPPARD, MULLIN, RICHTER & HAMPTON LLP

Counsel to Iridium Communications Inc.

SMRH:225492210.1
Attachments

cc: Charles Mathias
Jennifer Tatel
Paul Powell
Michael Ha
Joyce Jones
Robert Nelson
Jane Lee

Attachment A

Representing Iridium:

- Thomas Hickey, Chief Legal Officer
- Maureen McLaughlin, Vice President, Public Policy
- Hermon Pon, Vice President, Technology Development and Network Engineering
- Brandon Hinton, Senior Principal Systems Architect Engineer, Harris Corporation
- Bryan Tramont, Wilkinson Barker Knauer LLP, Outside Counsel to Iridium
- Douglas Svor, Sheppard Mullin Richter & Hampton LLP, Outside Counsel to Iridium

Representing the Commission:

- Charles Mathias
- Jennifer Tatel
- Paul Powell
- Michael Ha
- Joyce Jones
- Robert Nelson
- Jane Lee

Attachment B



Iridium Today & the Iridium NEXT Network: Risks from the Current Ligado Proposal



RELIABLE • CRITICAL • LIFELINES

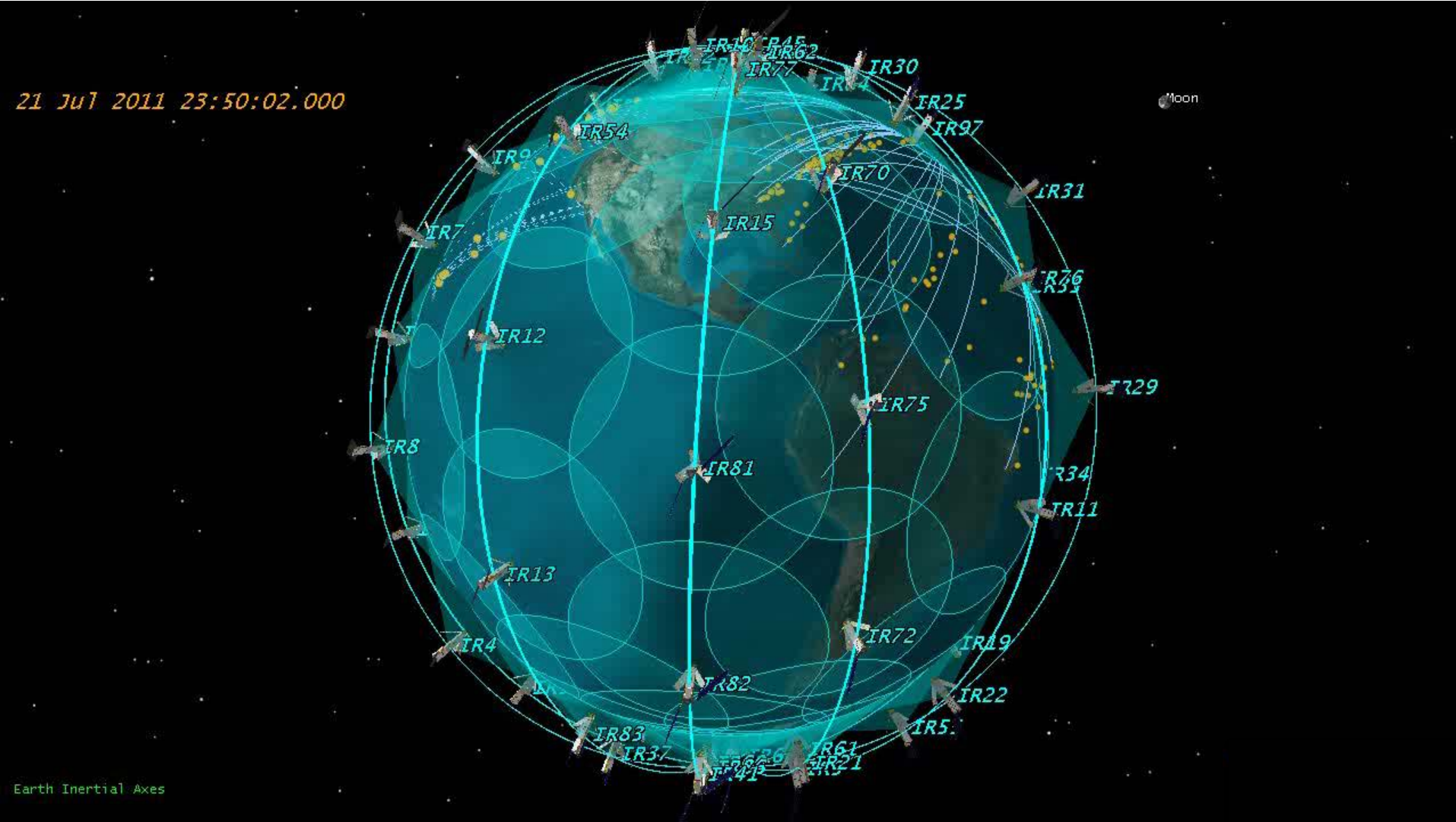
Harmful Interference to Iridium User Terminals from Ligado's Proposed Operations Must be Resolved

- Iridium does not oppose Ligado's plans *per se* and we express no view on the other 30 MHz of spectrum Ligado proposes for terrestrial use
- Ligado's proposed operation of a stand-alone terrestrial network at 1627.5-1637.5 MHz, however, would result in harmful interference to current and future Iridium operations
- Absent agreement, additional license conditions are required to ensure sufficient interference protection
 - Reduced out-of-band emissions from Ligado's mobile terminals into Iridium's spectrum in the adjacent band at 1617.775-1626.5 MHz
 - Exclusion zones around airport facilities where operation of Ligado user terminals would be prohibited to protect vital Aeronautical Mobile-Satellite (Route) Service (AMS(R)S) communications

Iridium Background

- Architecture of 66 low-Earth orbiting (LEO) cross-linked satellites – Iridium is the only truly global mobile satellite system
- Efficient operations using only 8.725 MHz of spectrum worldwide for uplink and downlink between 1617.775 and 1626.5 MHz
- In addition to voice and data services for wide variety of users, most rapidly expanding business segment is the machine-to-machine (M2M) market i.e., the two-way, satellite-based location, tracking and messaging market
- Largest provider of mobile satellite service (MSS) to aviation; service includes AMS(R)S which facilitates air traffic and operational control communications via mobile earth station terminals installed onboard aircraft
- Current subscriber base of 788,000, up from 369,000 at beginning of 2010

World's Only *Truly* Global Network, Covering Everywhere



A Growing and Robust Product Portfolio

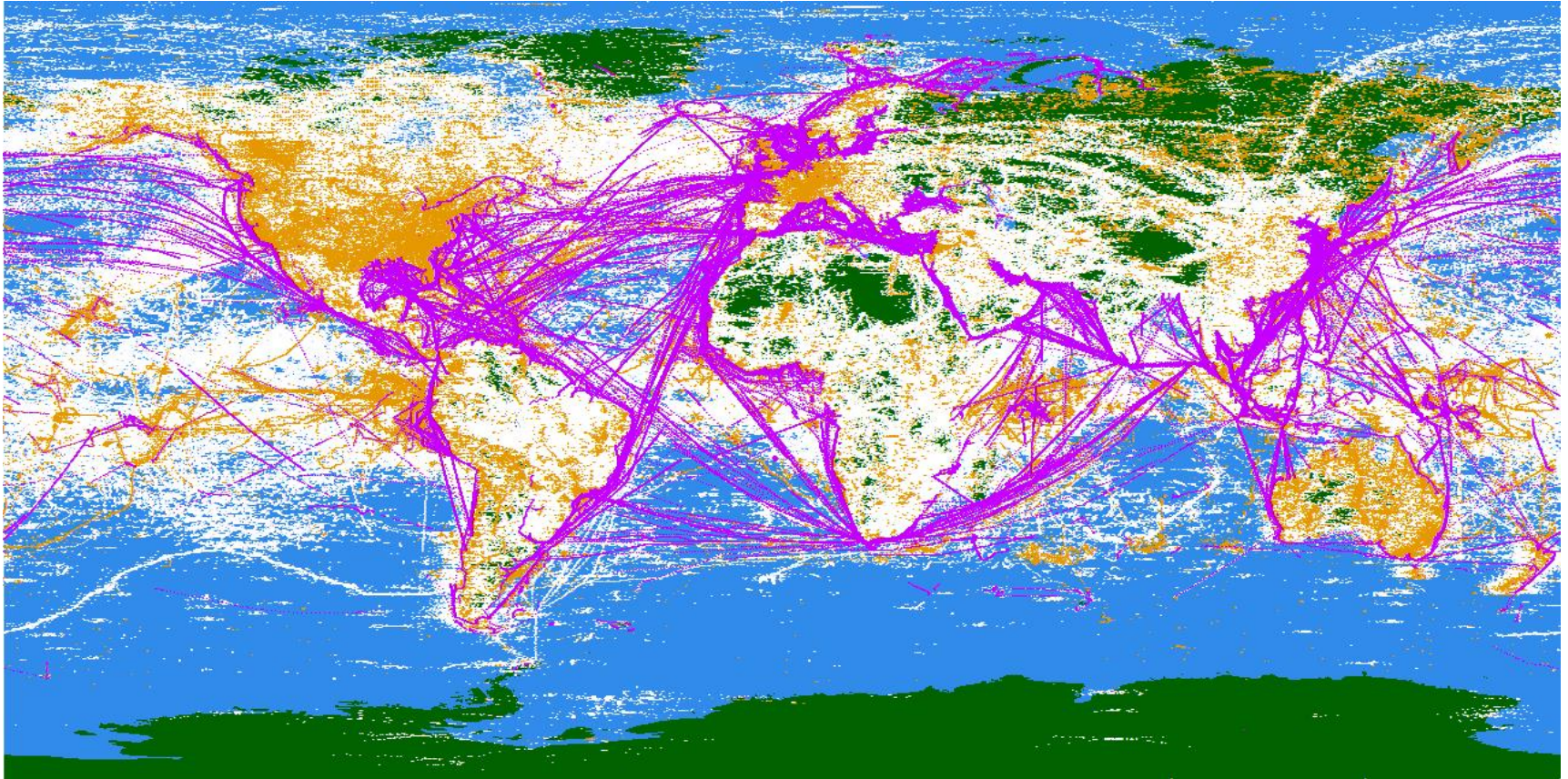


Iridium NEXT Positions Us for the Future

- \$3 billion plan for next-generation system
- 66 new mission satellites, 6 in-orbit spares plus 9 ground spares
- Backwards compatible with existing network and devices
- Expanded capacity and higher speeds through Iridium CertusSM broadband services
- First SpaceX F9 launch of 10 satellites scheduled Sep. 12, 2016
- Remaining SpaceX F9 launches scheduled 2016-2017



Network Leadership Fuels Global Usage



○ M2M (SBD) Data Transmission

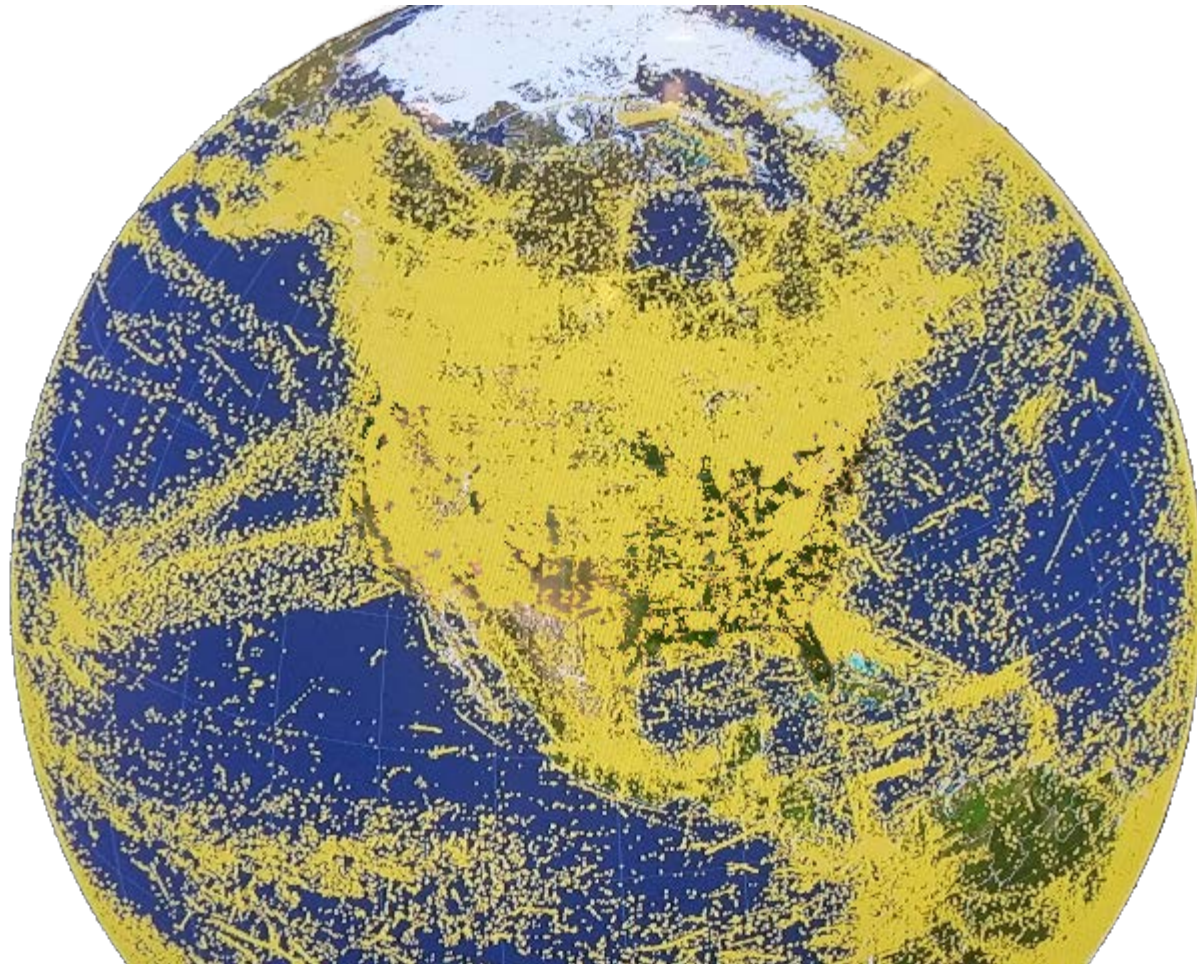
● Voice Call

● Iridium Maritime High-Speed Data Traffic

Note: One week plot of M2M/SBD session, voice call and Iridium OpenPort® maritime broadband data origination points for the week of 5/1/2016 to 5/7/2016 (commercial traffic only)



Iridium Service on June 28, 2016







Emergency Response Example: Earthquake in Haiti January 2010

The 2010 Haiti earthquake was a catastrophic magnitude 7.0Mw earthquake with an epicenter approximately 16 miles west of Port-au-Prince. The earthquake occurred at 4:53pm local time on Tuesday, January 12, 2010. By January 24th, at least 52 aftershocks measuring 4.5 or greater had been recorded. Iridium was the only reliable communications system during the initial stages of the disaster.



Iridium's Many Vertical Markets

Well positioned to address global MSS market needs

Market Position		Iridium Advantages
 Land/Mobile	Market leader with premium product offering	<ul style="list-style-type: none">• True mobility• Global coverage• Reliability
 M2M	Premium provider with rapid subscriber growth	<ul style="list-style-type: none">• Global coverage• Low latency• Throughput• Uniform global service
 Maritime	Value provider; large addressable market	<ul style="list-style-type: none">• Global coverage• Low cost• Small antenna
 Aviation	Market leader in GA; broadband opportunity	<ul style="list-style-type: none">• Global coverage• Low cost• Small device



Strong U.S. Government Relationship

While Iridium's current subscriber base is ~90% commercial, USG was our first customer and remains our largest today

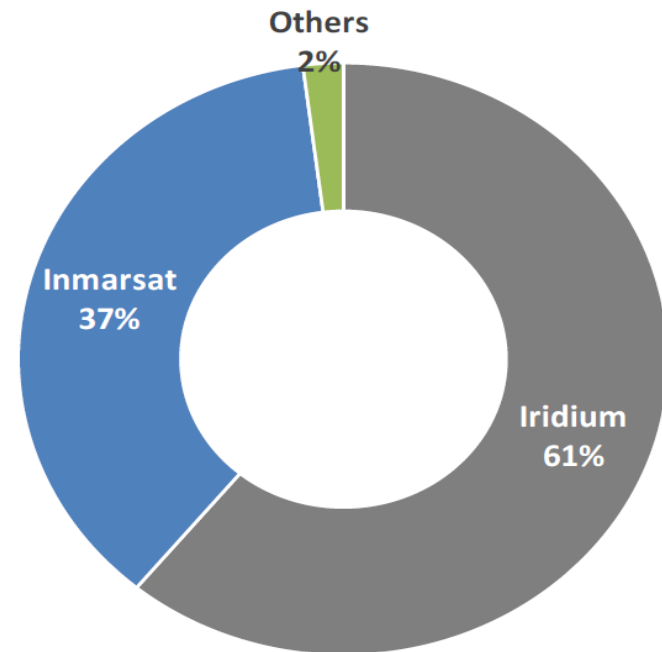
- Serves all DoD branches and US Government agencies
- Strong 15-year relationship under DISA EMSS program
- Unique capabilities
- Subscriber growth of 20% in 2015



Mobile Satellite Services Market Share – Aviation

Today, Iridium is the leading supplier of mobile satellite services to aviation

- Over 55,000 subscribers
- Includes general aviation, rotorcraft, commercial aviation, business jets, UAVs, high altitude balloons, etc.
- Consistent market growth over last decade
- Iridium CertusSM, the new service platform powered by Iridium NEXT, provides opportunity to expand this service

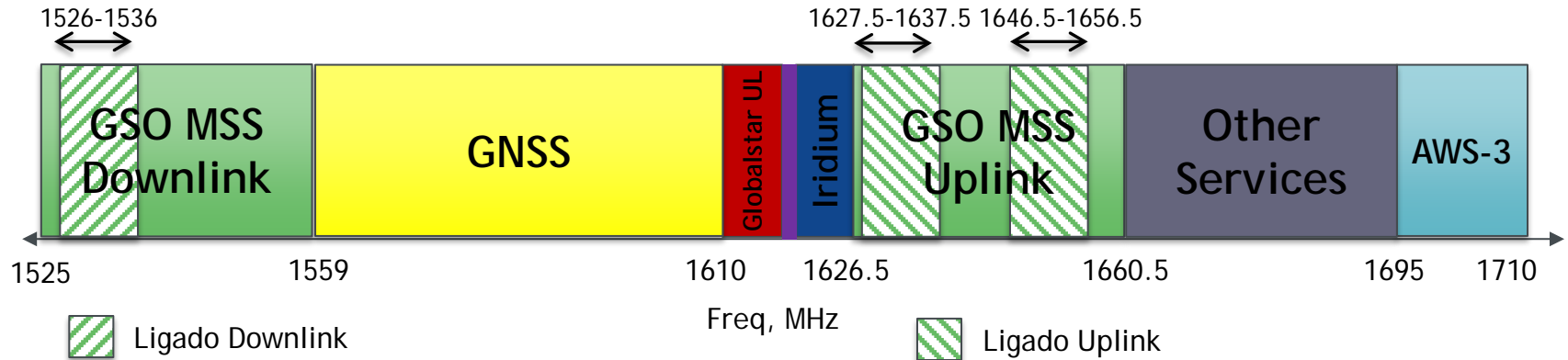


MSS Operator - Terminal Installations



Mobile Satellite Communications © Euroconsult 2015

Iridium's L-band Neighborhood



- Iridium currently licensed to operate in 1617.775-1626.5 MHz
- 8.725 MHz total spectrum to provide uplink and downlink service links

Out of Band Emissions from Ligado Proposed Mobile Terminals Will Cause Harmful Interference to Iridium's User Terminals in the Adjacent Big LEO Band

- Ligado's proposed network will be the first commercial, nationwide terrestrial deployment in the L-band, with potentially millions of mobile devices transmitting just 1 MHz away from the spectrum that Iridium utilizes for all of its critical uplink and downlink satellite services
- Ligado's proposed terrestrial use of 10 MHz at 1627.5-1637.5 MHz will cause significant harmful interference to adjacent-band low-power Iridium terminals
- Ligado's proposed compliance with a substantially relaxed out-of-band emission limit of -58 dBW/4 kHz at 1626.5 MHz offers insufficient interference protection
- Interference is in fact primarily due to unwanted emissions within the Iridium band, as opposed to Iridium receiver overload from Ligado's wanted (in-band) emissions that generated the Ligado/GPS interference problem

Ligado's Proposed Stand-Alone Terrestrial Network Also Threatens to Disrupt Iridium's AMS(R)S Operations

- Ligado's proposal threatens current and future AMS(R)S operations
- Commission should hold Modification Applications in abeyance until resolution of aviation industry and FAA concerns
- Exclusion zones around airport facilities should be required where operation of Ligado user terminals would be prohibited to protect AMS(R)S communications
- Iridium's concerns are strongly supported by aviation industry – Joint Aviation Parties (Aircraft Owners and Pilots Association, Airlines for America, Aviation Spectrum Resources, Inc., Bristow U.S., LLC, Cargo Airline Association, Delta Airlines, Helicopter Association International, International Air Transport Association, National Air Transport Association, Rockwell Collins IMS, Southwest Airlines, and United Parcel Service); Aerospace Industry Association

“Ligado has not provided any results studying the potential for interference to SATCOM from base stations and handsets. The SATCOM interference issue is completely independent of the outcome of the substantial remaining GPS interference issues, and must be fully defined and resolved before proceeding further on the Applications.”

June 21, 2016 reply comments of Joint Aviation Parties